

FIG. 1



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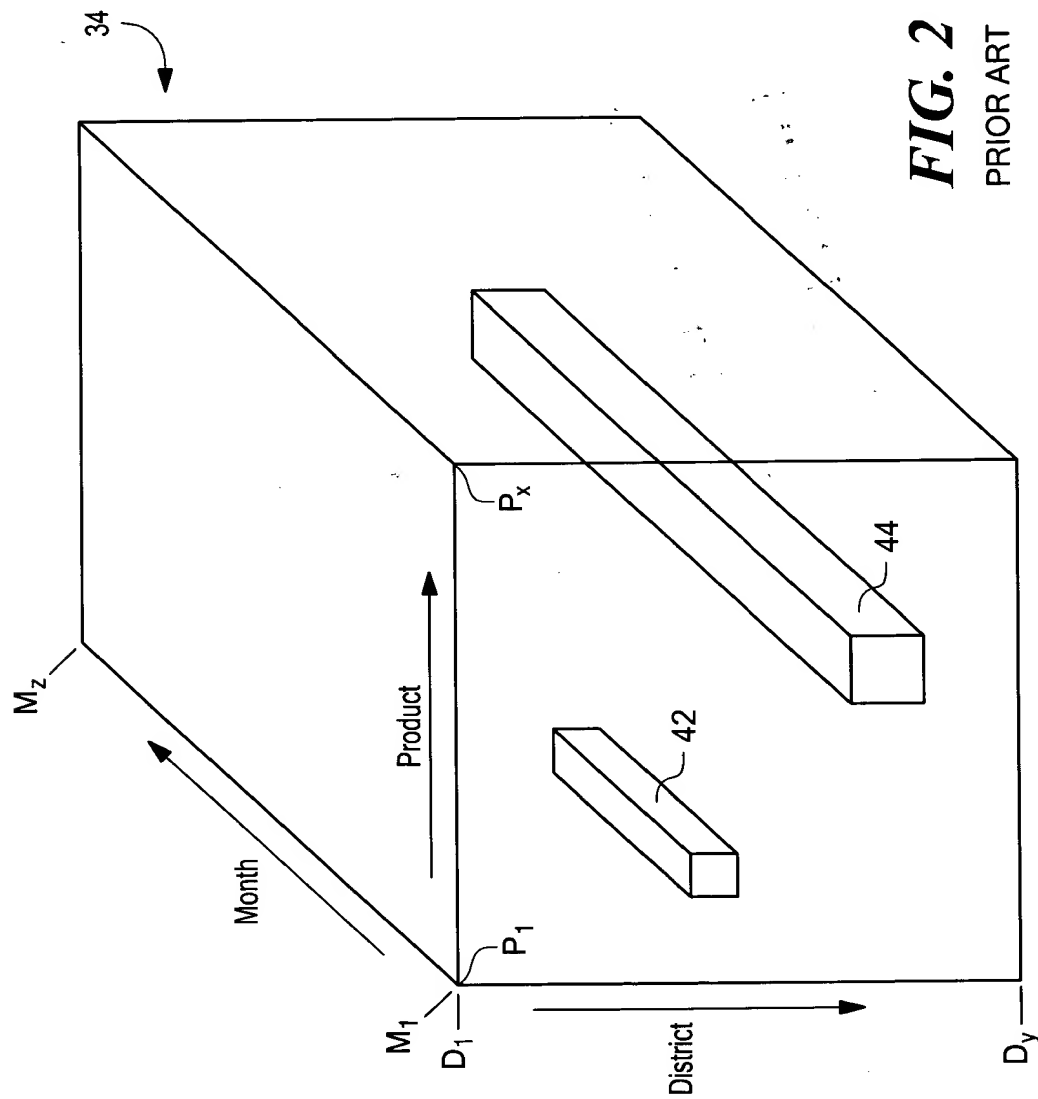


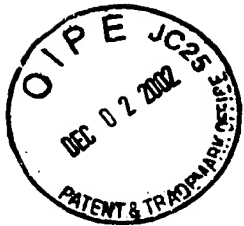
FIG. 3A

PRIOR ART

Diagram illustrating a hierarchical tree structure 50. The root node is labeled L_2 . It branches into three nodes: L_3 , D_1 , and D_2 . Node L_3 branches into P_1 , P_2 , and P_3 . Node D_1 branches into P_1 , P_2 , and P_3 . Node D_2 branches into P_1 , P_2 , and P_3 . Each P_i node branches into three leaf nodes labeled M_1 , M_2 , and M_3 .

FIG. 3B

PRIOR ART



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55

Nome						Miami						...
Ice			Coal			Ice			Coal			
Jan	Feb	Mar	Jan	Feb	Mar	Jan	Feb	Mar	Jan	Feb	Mar	
0	0	0	10	10	10	6	6	7	0	0	0	

$L_3 \rightarrow$
 $L_2 \rightarrow$
 $L_1 \rightarrow$

FIG. 4

PRIOR ART

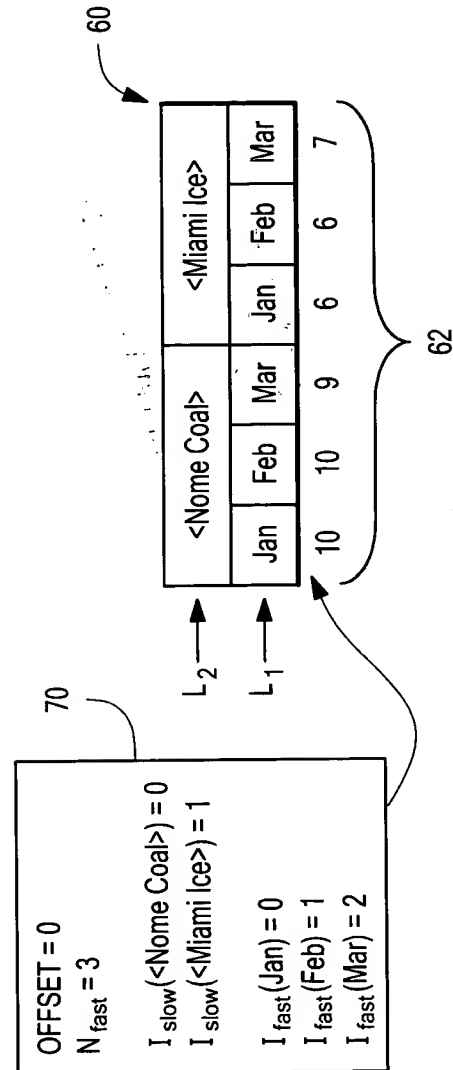


FIG. 5

PRIOR ART

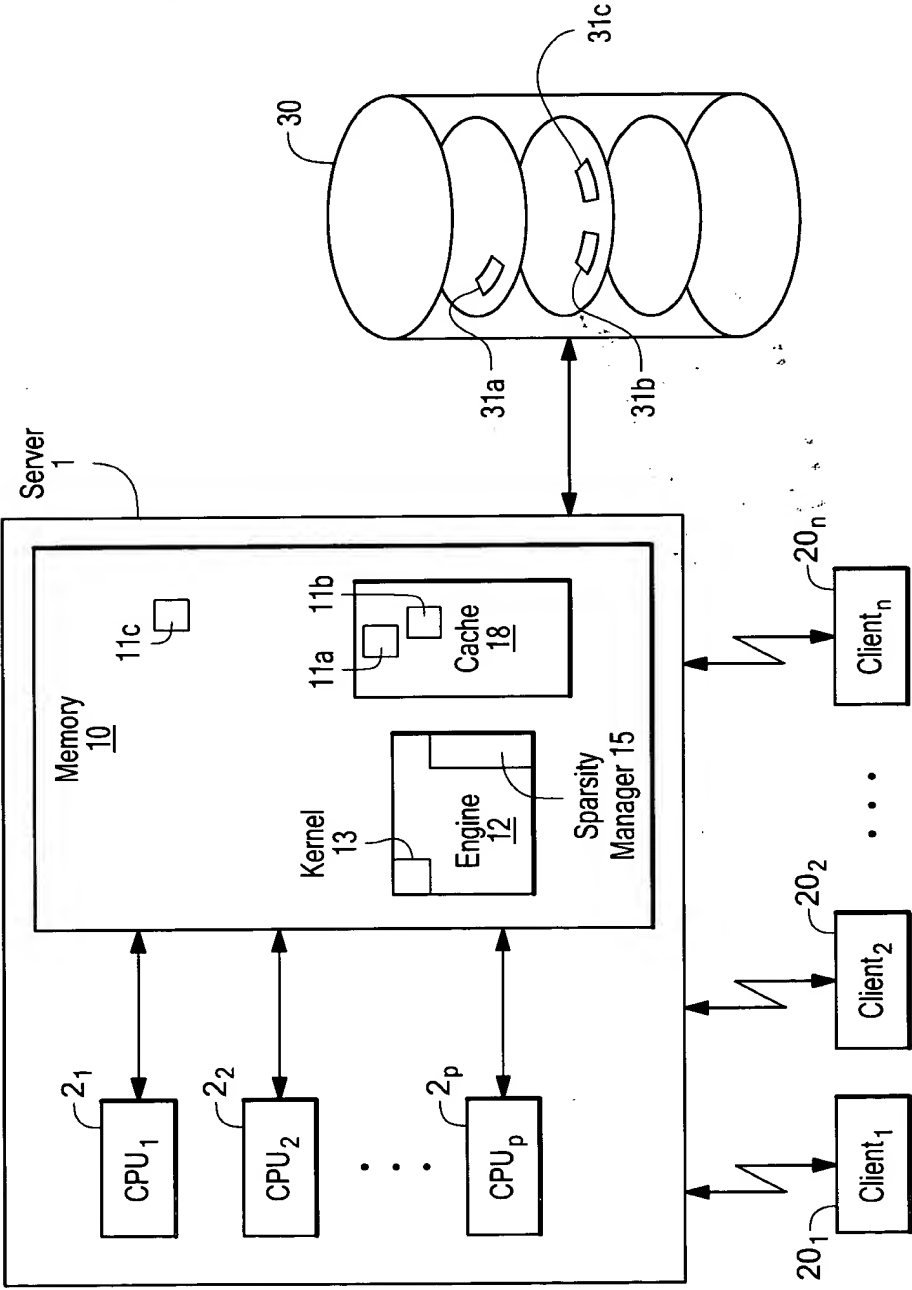
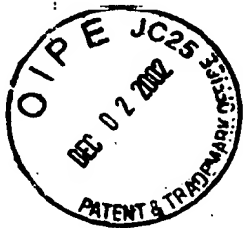


FIG. 6



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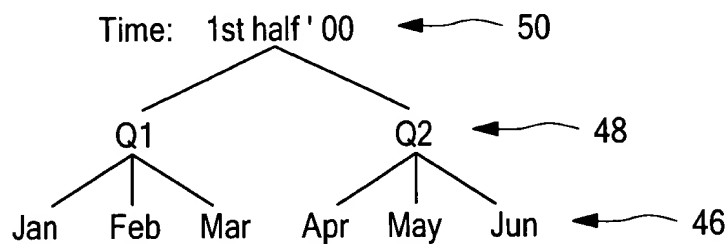


FIG. 7a

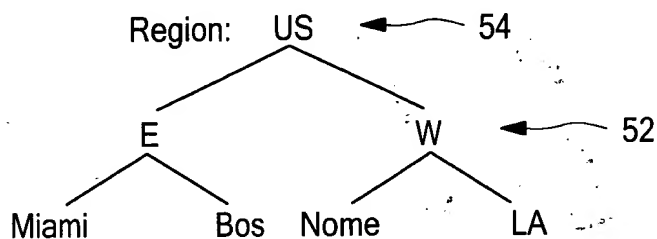


FIG. 7b

Coal

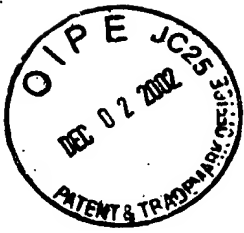
	Jan	Feb	Mar	Apr	May	Jun
Miami	<	SPARSE				>
LA	<	SPARSE				>
Nome	7	7	6	4	2	0
Bos	10	10	9	7	3	0

FIG. 8a

Ice

	Jan	Feb	Mar	Apr	May	Jun
Miami	6	6	7	8	8	9
LA	3	4	4	5	5	7
Nome	<	SPARSE				>
Bos	<	SPARSE				>

FIG. 8b



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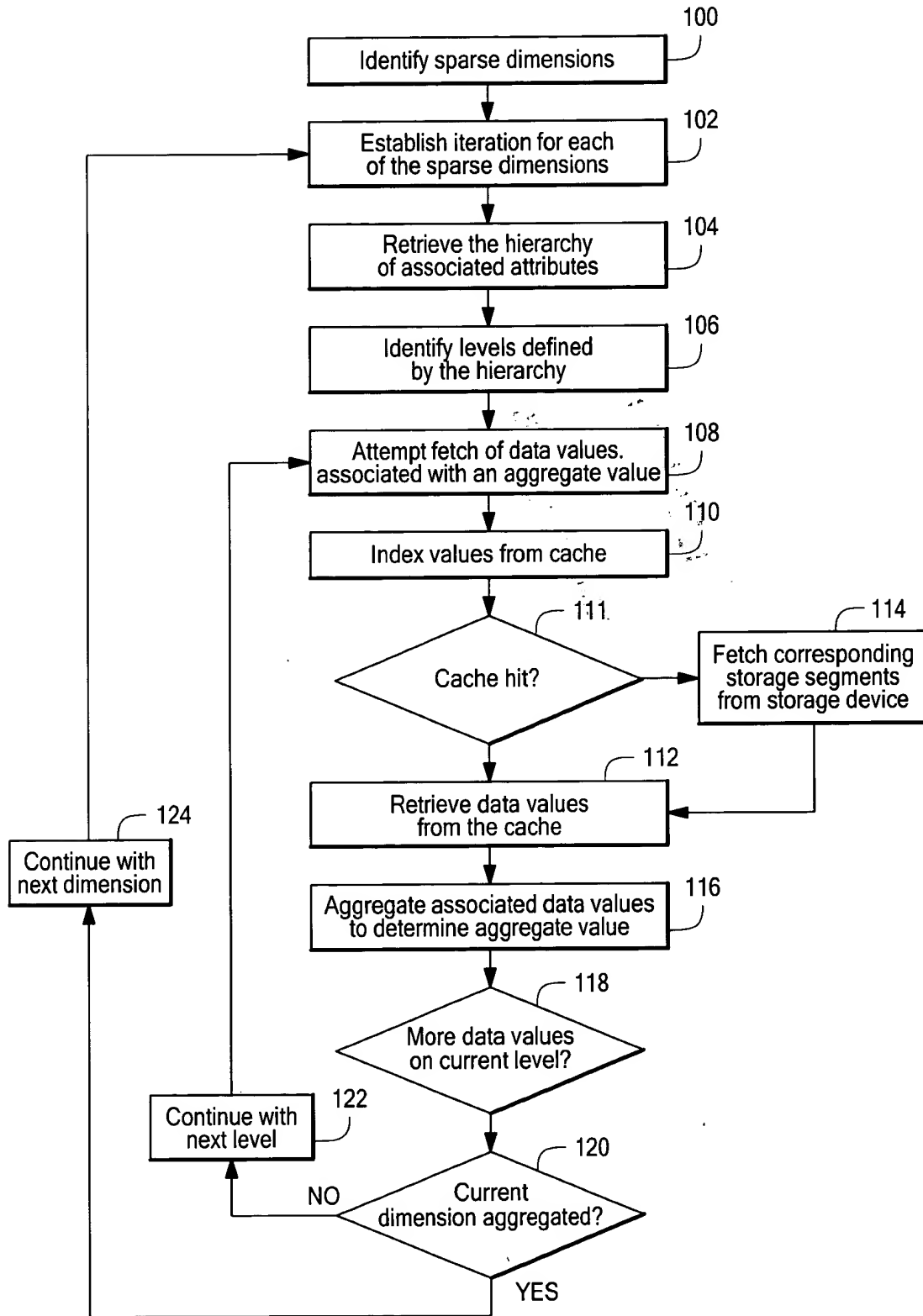
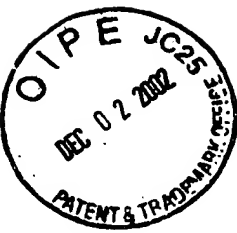


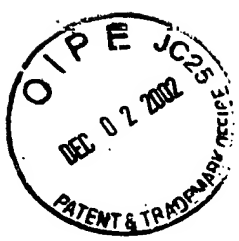
FIG. 9



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40		42	44
Sales		Volume	Position
46	V (Bos, Jan)	= 7	(1)
	V (Bos, Feb)	= 7	(2)
	V (Bos, Mar)	= 6	(3)
	V (Bos, Apr)	= 4	(4)
	V (Bos, May)	= 2	(5)
	V (Bos, Jun)	= 0	(6)
	V (Nome, Jan)	= 10	(7)
	V (Nome, Feb)	= 10	(8)
	V (Nome, Mar)	= 9	(9)
	V (Nome, Apr)	= 7	(10)
	V (Nome, May)	= 3	(11)
	V (Nome, Jun)	= 0	(12)
48	V (Bos, Q1)	V (Bos, Jan) + V (Bos, Feb) + V (Bos, Mar) = 7 + 7 + 6 = 20	(13)
	V (Bos, Q2)	V (Bos, Apr) + V (Bos, May) + V (Bos, Jun) = 4 + 2 + 0 = 6	(14)
	V (Nome, Q1)	V (Nome, Jan) + V (Nome, Feb) + V (Nome, Mar) = 10 + 10 + 9 = 29	(15)
	V (Nome, Q2)	V (Nome, Apr) + V (Nome, May) + V (Nome, Jun) = 7 + 3 + 0 = 10	(16)
50	V (Bos, 1st half '00)	V (Bos, Q1) + V (Bos, Q2) = 20 + 6 = 26	(17)
	V (Nome, 1st half)	V (Nome, Q1) + V (Nome, Q2) = 29 + 10 = 39	(18)

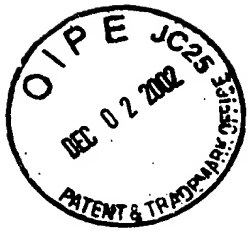
FIG. 10a



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40		42		44
Sales		Volume		Position
52	V (E, Jan)	V (Bos, Jan) + V (Miami, Jan) = 7 + 0 = 7		(19)
	V (E, Feb)	V (Bos, Feb) + V (Miami, Feb) = 7 + 0 = 7		(20)
	V (E, Mar)	V (Bos, Mar) + V (Miami, Mar) = 6 + 0 = 6		(21)
	V (E, Apr)	V (Bos, Apr) + V (Miami, Apr) = 4 + 0 = 4		(22)
	V (E, May)	V (Bos, May) + V (Miami, May) = 2 + 0 = 2		(23)
	V (E, Jun)	V (Bos, Jun) + V (Miami, Jun) = 0 + 0 = 0		(24)
	V (W, Jan)	V (Nome, Jan) + V (LA, Jan) = 10 + 0 = 10		(25)
	V (W, Feb)	V (Nome, Feb) + V (LA, Feb) = 10 + 0 = 10		(26)
	V (W, Mar)	V (Nome, Mar) + V (LA, Mar) = 9 + 0 = 9		(27)
	V (W, Apr)	V (Nome, Apr) + V (LA, Apr) = 7 + 0 = 7		(28)
	V (W, May)	V (Nome, May) + V (LA, May) = 3 + 0 = 3		(29)
	V (W, Jun)	V (Nome, Jun) + V (LA, Jun) = 0 + 0 = 0		(30)

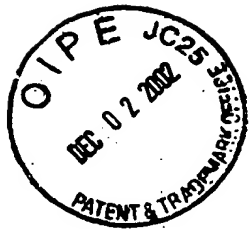
FIG. 10b



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	40 Sales	42 Volume	44 Position
53	V (E, Q1)	$= V (\text{Bos, Q1}) + V (\text{Miami, Q1})$ $= 20 + \text{NA} = 20$	(31)
	V (E, Q2)	$= V (\text{Bos, Q2}) + V (\text{Miami, Q2})$ $= 6 + \text{NA} = 6$	(32)
	V (W, Q1)	$= V (\text{Nome, Q1}) + V (\text{Nome, Q1})$ $= 29 + \text{NA} = 29$	(33)
	V (W, Q2)	$= V (\text{Nome, Q2}) + V (\text{Nome, Q2})$ $= 10 + \text{NA} = 10$	(34)
	V (E, 1st half)	$= V (\text{Bos, 1st half}) + V (\text{Miami, 1st half})$ $= 26 + \text{NA} = 26$	(35)
	V (W, 1st half)	$= V (\text{Nome, 1st half}) + V (\text{Nome, 1st half})$ $= 39 + \text{NA} = 39$	(36)
54	V (US, Jan)	$= V (\text{E, Jan}) + V (\text{W, Jan})$ $= 7 + 10 = 17$	(37)
	V (US, Feb)	$= V (\text{E, Feb}) + V (\text{W, Feb})$ $= 7 + 10 = 17$	(38)
	V (US, Mar)	$= V (\text{E, Mar}) + V (\text{W, Mar})$ $= 6 + 9 = 15$	(39)
	V (US, Apr)	$= V (\text{E, Apr}) + V (\text{W, Apr})$ $= 4 + 7 = 11$	(40)
	V (US, May)	$= V (\text{E, May}) + V (\text{W, May})$ $= 2 + 3 = 5$	(41)
	V (US, Jun)	$= V (\text{E, Jun}) + V (\text{W, Jun})$ $= 0 + 0 = 0$	(42)
56	V (US, Q1)	$= V (\text{E, Q1}) + V (\text{W, Q1})$ $= 20 + 29 = 49$	(43)
	V (US, Q2)	$= V (\text{E, Q2}) + V (\text{W, Q2})$ $= 6 + 10 = 16$	(44)
	V (US, 1st half)	$= V (\text{E, 1st half}) + V (\text{W, 1st half})$ $= 26 + 39 = 65$	(45)

FIG. 10c



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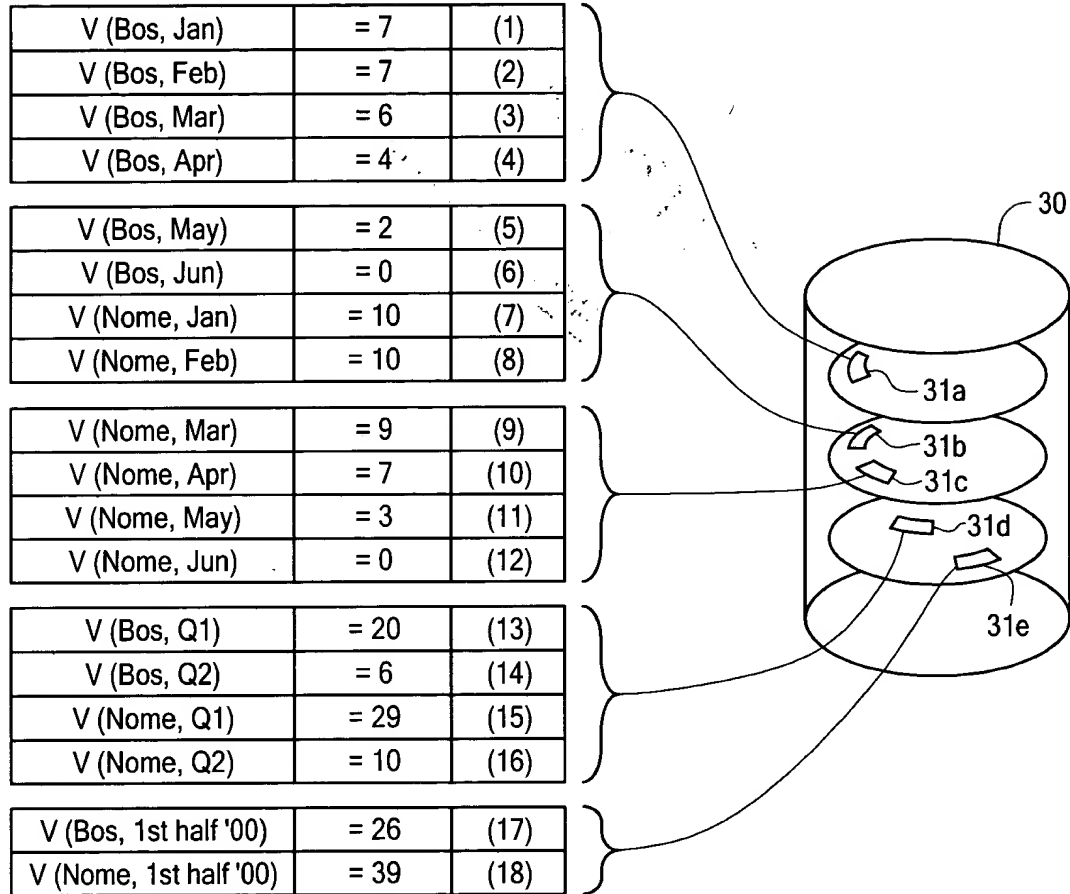


FIG. 11